

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of the claims and listing of the claims in the application:

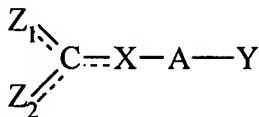
1. **(Currently Amended)** A method of treating obesity ~~or preventing a body disorder related to weight gain or loss~~ in a subject afflicted with obesity~~said disorder~~, comprising administering to the subject an amount of a creatine compound, or a pharmaceutically acceptable salt thereof, effective to treat, ~~reduce, or prevent~~ said disorder.

Claims 2-3 (**Cancelled**).

4. **(Currently Amended)** The method of claim 1 wherein said subject is also suffering from an disorder is obesity associated disorder such as selected from the group consisting of cardiovascular disease, hypertension, hyperlipidaemia, osteoporosis, and osteoarthritis.

5. **(Original)** The method of claim 1 wherein the subject is human.

6. **(Previously Presented)** A method for treating a metabolic disorder consisting of obesity and its associated diseases, in a subject experiencing said disorder, comprising administering to the subject a therapeutic amount of a creatine analogue having the general formula:



and pharmaceutically acceptable salts thereof, wherein:

a) Y is selected from the group consisting of: -CO<sub>2</sub>H-NHOH, -NO<sub>2</sub>, -SO<sub>3</sub>H, -C(=O)NHSO<sub>2</sub>J and -P(=O)(OH)(OJ), wherein J is selected from a group consisting of: hydrogen, C<sub>1</sub>-C<sub>6</sub> straight chain alkyl, C<sub>3</sub>-C<sub>6</sub> branched alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>3</sub>-C<sub>6</sub> branched alkenyl, and aryl;

b) A is selected from the group consisting of: C, CH, C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>2</sub>-C<sub>5</sub> alkenyl, C<sub>2</sub>-C<sub>5</sub> alkynyl, and C<sub>1</sub>-C<sub>5</sub> alkoyl chain, each having 0-2 substituents which are selected independently from the group consisting of:

1) K, where K is selected from the group consisting of: C<sub>1</sub>-C<sub>6</sub> straight alkyl, C<sub>2</sub>-C<sub>6</sub> straight alkenyl, C<sub>1</sub>-C<sub>6</sub> straight alkoyl, C<sub>3</sub>-C<sub>6</sub> branched alkyl, C<sub>3</sub>-C<sub>6</sub> branched alkenyl, and C<sub>4</sub>-C<sub>6</sub> branched alkoyl, K having 0-2 substituents independently selected from the group consisting of bromo, chloro, epoxy and acetoxy;

2) an aryl group selected from the group consisting of: a 1-2 ring carbocycle and a 1-2 ring heterocycle, wherein the aryl group contains 0-2 substituents independently selected from the group consisting of: -CH<sub>2</sub>L and -COCH<sub>2</sub>L where L is independently selected from the group consisting of: bromo, chloro, epoxy and acetoxy; and

3) -NH-M, wherein M is selected from the group consisting of: hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, C<sub>1</sub>-C<sub>4</sub> alkoyl, C<sub>3</sub>-C<sub>4</sub> branched alkyl, C<sub>3</sub>-C<sub>4</sub> branched alkenyl, and C<sub>4</sub> branched alkoyl;

c) X is selected from the group consisting of NR<sub>1</sub>, CHR<sub>1</sub>, CR<sub>1</sub>, O and S, wherein R<sub>1</sub> is selected from the group consisting of:

1) hydrogen;

2) K where K is selected from the group consisting of: C<sub>1</sub>-C<sub>6</sub> straight alkyl, C<sub>2</sub>-C<sub>6</sub> straight alkenyl, C<sub>1</sub>-C<sub>6</sub> straight alkoyl, C<sub>3</sub>-C<sub>6</sub> branched alkyl, C<sub>3</sub>-C<sub>6</sub> branched alkenyl, and C<sub>4</sub>-C<sub>6</sub> branched alkoyl, K having 0-2 substituents independently selected from the group consisting of: bromo, chloro, epoxy and acetoxy;

3) an aryl group selected from the group consisting of a 1-2 ring carbocycle and a 1-2 ring heterocycle, wherein the aryl group contains 0-2 substituents independently selected from the group consisting of: -CH<sub>2</sub>L and -COCH<sub>2</sub>L where L is independently selected from the group consisting of: bromo, chloro, epoxy and acetoxy;

4) a C<sub>5</sub>-C<sub>9</sub> α-amino-ω-methyl-ω-adenosylcarboxylic acid attached via the ω-methyl carbon;

5) 2 C<sub>5</sub>-C<sub>9</sub> α-amino-ω-aza-ω-methyl-ω-adenosylcarboxylic acid attached via the ω-methyl carbon;

6) a C<sub>5</sub>-C<sub>9</sub> α-amino-ω-thia-ω-methyl-ω-adenosylcarboxylic acid attached via the ω-methyl carbon;

d)  $Z_1$  and  $Z_2$  are chosen independently from the group consisting of:  $=O$ ,  $-NHR_2$ ,  $-CH_2R_2$ ,  $-NR_2OH$ ; wherein  $Z_1$  and  $Z_2$  may not both be  $=O$  and wherein  $R_2$  is selected from the group consisting of:

- 1) hydrogen;
- 2) K, where K is selected from the group consisting of:  $C_1$ - $C_6$  straight alkyl;  $C_2$ - $C_6$  straight alkenyl,  $C_1$ - $C_6$  straight alkoyl,  $C_3$ - $C_6$  branched alkyl,  $C_3$ - $C_6$  branched alkenyl, and  $C_4$ - $C_6$  branched alkoyl, K having 0-2 substituents independently selected from the group consisting of: bromo, chloro, epoxy and acetoxy;
- 3) an aryl group selected from the group consisting of a 1-2 ring carbocycle and a 1-2 ring heterocycle, wherein the aryl group contains 0-2 substituents independently selected from the group consisting of:  $-CH_2L$  and  $-COCH_2L$  where L is independently selected from the group consisting of: bromo, chloro, epoxy and acetoxy;
- 4) 2  $C_4$ - $C_8$   $\alpha$ -amino-carboxylic acid attached via the  $\omega$ -carbon;
- 5) B, wherein B is selected from the group consisting of:  $-CO_2H-NHOH$ ,  $-SO_3H$ ,  $-NO_2$ ,  $OP(=O)(OH)(OJ)$  and  $-P(=O)(OH)(OJ)$ , wherein J is selected from the group consisting of: hydrogen,  $C_1$ - $C_6$  straight alkyl,  $C_3$ - $C_6$  branched alkyl,  $C_2$ - $C_6$  alkenyl,  $C_3$ - $C_6$  branched alkenyl, and aryl, wherein B is optionally connected to the nitrogen via linker selected from the group consisting of:  $C_1$ - $C_2$  alkyl,  $C_2$  alkenyl, and  $C_1$ - $C_2$  alkoyl;
- 6) -D-E, wherein D is selected from the group consisting of:  $C_1$ - $C_3$  straight alkyl,  $C_3$  branched alkyl,  $C_2$ - $C_3$  straight alkenyl,  $C_3$  branched alkenyl,  $C_1$ - $C_3$  straight alkoyl, aryl and aroyl; and E is selected from the group consisting of:  $-(PO_3)_nNMP$ , where n is 0-2 and NMP is ribonucleotide monophosphate connected via the 5'-phosphate, 3'-phosphate or the aromatic ring of the base;  $-[P(=O)(OCH_3)(O)]_m-Q$ , where m is 0-3 and Q is a ribonucleoside connected via the ribose or the aromatic ring of the base;  $-[P(=O)(OH)(CH_2)]_m-Q$ , where m is 0-3 and Q is a ribonucleoside connected via the ribose or the aromatic ring of the base and an aryl group containing 0-3 substituents chosen independently from the group consisting of: Cl, Br, epoxy, acetoxy,  $-OG$ ,  $-C(=O)G$ , and  $-CO_2G$ , where G is independently selected from the group consisting of:  $C_1$ - $C_6$  straight alkyl,  $C_2$ - $C_6$  straight alkenyl,  $C_1$ - $C_6$  straight alkoyl,  $C_3$ - $C_6$  branched alkyl,  $C_3$ - $C_6$  branched alkenyl,  $C_4$ - $C_6$  branched alkoyl, wherein E may be attached to any point to D, and if D is alkyl or alkenyl, D may be connected at either or both ends by an amide linkage; and
- 7) -E, wherein E is selected from the group consisting of  $-(PO_3)_nNMP$ , where n is 0-2 and NMP is a ribonucleotide monophosphate connected via the 5'-phosphate, 3'-phosphate or the aromatic ring of the base;  $-[P(=O)(OCH_3)(O)]_m-Q$  where m is 0-3 and Q is a ribonucleoside connected via the ribose or the aromatic ring of the base; -

$[P(=O)(OH)(CH_2)]_m-Q$  where  $m$  is 0-3 and  $Q$  is a ribonucleoside connected via the ribose or the aromatic ring of the base; and an aryl group containing 0-3 substituents chosen independently from the group consisting of: Cl, Br, epoxy, acetoxy, -OG, -C(=O)G, and -CO<sub>2</sub>G, where G is independently selected from the group consisting of: C<sub>1</sub>-C<sub>6</sub> straight alkyl, C<sub>2</sub>-C<sub>6</sub> straight alkenyl, C<sub>1</sub>-C<sub>6</sub> straight alkoyl, C<sub>3</sub>-C<sub>6</sub> branched alkyl, C<sub>3</sub>-C<sub>6</sub> branched alkenyl, C<sub>4</sub>-C<sub>6</sub> branched alkoyl; and if E is aryl, E may be

connected by an amide linkage;

e) if R<sub>1</sub> and at least one R<sub>2</sub> group are present, R<sub>1</sub> may be connected by a single or double bond to an R<sub>2</sub> group to form a cycle of 5 to 7 members;

f) if two R<sub>2</sub> groups are present, they may be connected by a single or a double bond to form a cycle of 4 to 7 members; and

g) if R<sub>1</sub> is present and Z<sub>1</sub> or Z<sub>2</sub> is selected from the group consisting of -NHR<sub>2</sub>, -CH<sub>2</sub>R<sub>2</sub> and -NR<sub>2</sub>OH, then R<sub>1</sub> may be connected by a single or double bond to the carbon or nitrogen of either Z<sub>1</sub> or Z<sub>2</sub> to form a cycle of 4 to 7 members.

7. **(Original)** A method of claim 6 wherein the creatine compound is used in combination with standard therapies used to treat body weight disorders.

Claims 8-13. **(Canceled)**

14. **(New)** The method of claim 2 wherein said compound is creatine.

Claims 15.-20 **(Canceled)**.